

NATIONAL REPORT



SLOVAKIA



Geodetic and Cartographic Institute Bratislava

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Geodesy, Cartography and Cadastre Authority of the Slovak Republic

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Research Institute of Geodesy and Cartography

Peter Korcak



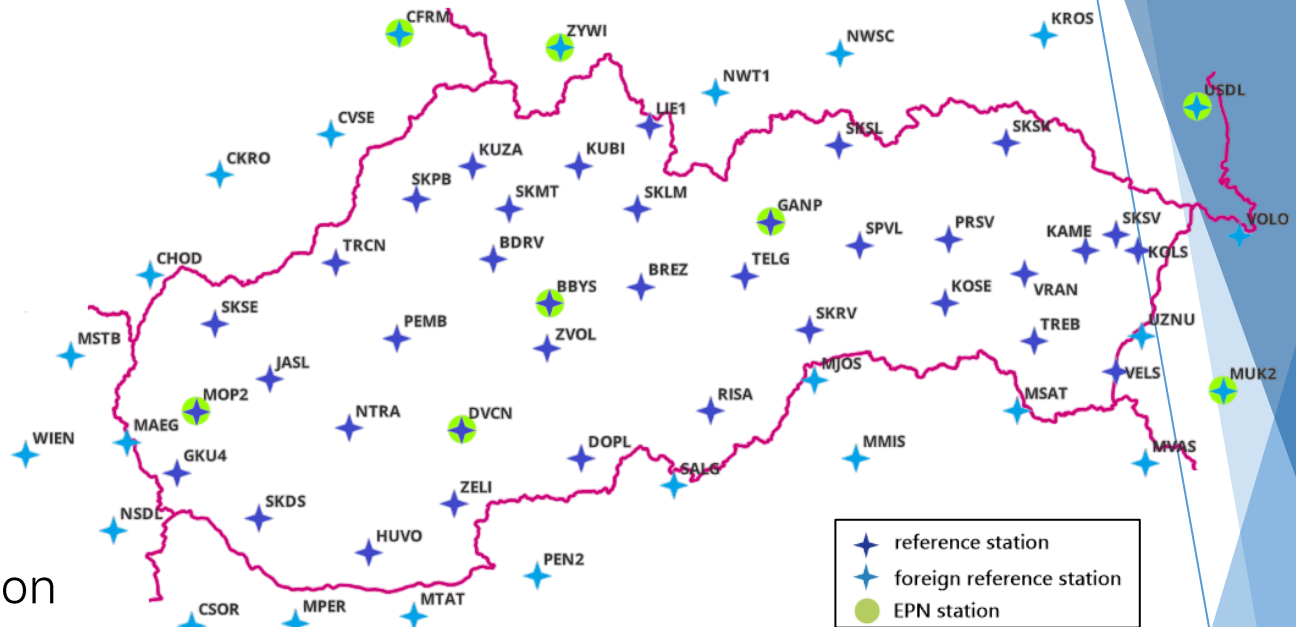
Slovak University of Technology in Bratislava

Martin Imrisek

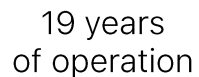


CORS Network:

- ▶ 37 stations (+1)
 - + 25 foreign stations (+3)
- ▶ 37 GPS+GLO+GAL+BDS+SBS
- ▶ 24 pillar/drilled rods stabilization
- ▶ 4 EPN: BBYS, DVCN, GANP, MOP2
- ▶ 1 IGS: GANP



Real-time positioning service:





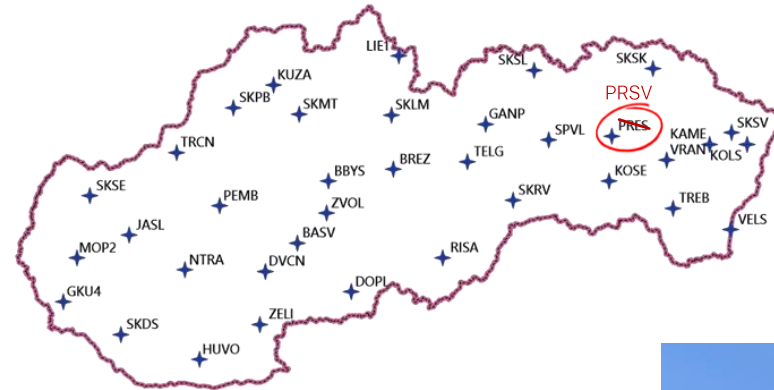
GKU BRATISLAVA

SKPOS®

News since last EUREF Symposium:



► 06/2024 PRES replaced by PRSV



PRES



PRSV



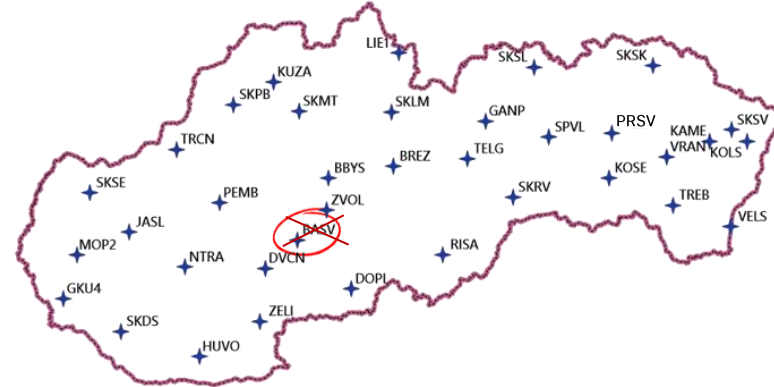
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- ▶ 10/2024 **BASV removed**



BASV



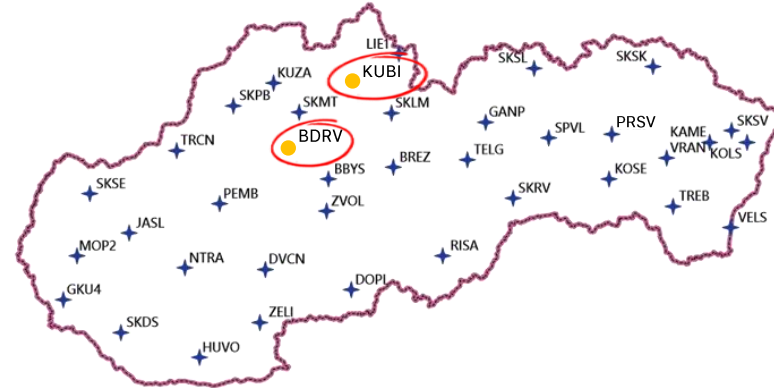
GKU BRATISLAVA

SKPOS®

News since last EUREF Symposium:



- ▶ 06/2024 PRES replaced by PRSV
- ▶ 10/2024 BASV removed
- ▶ **03/2025 BDRV and KUBI installed (internet connection in preparation)**



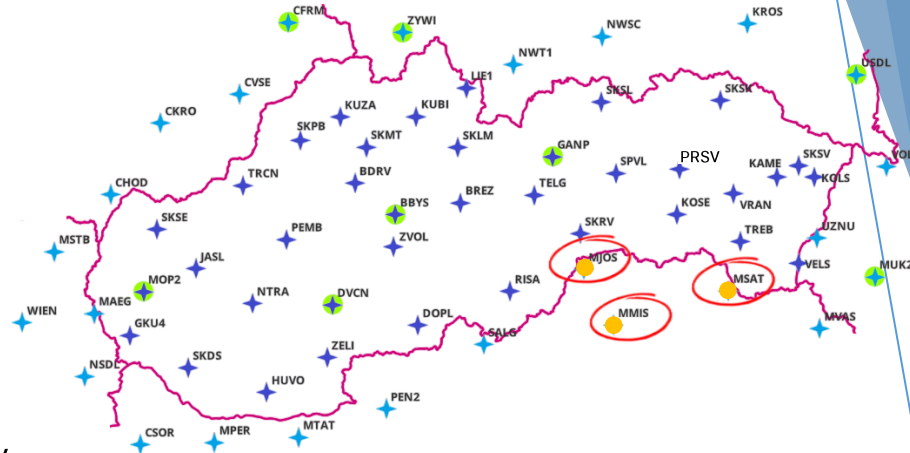
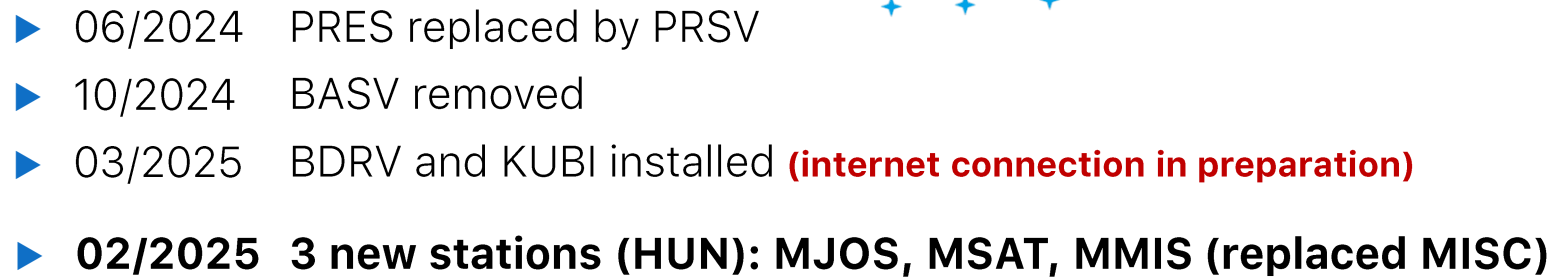
BDRV



KUBI



News since last EUREF Symposium:





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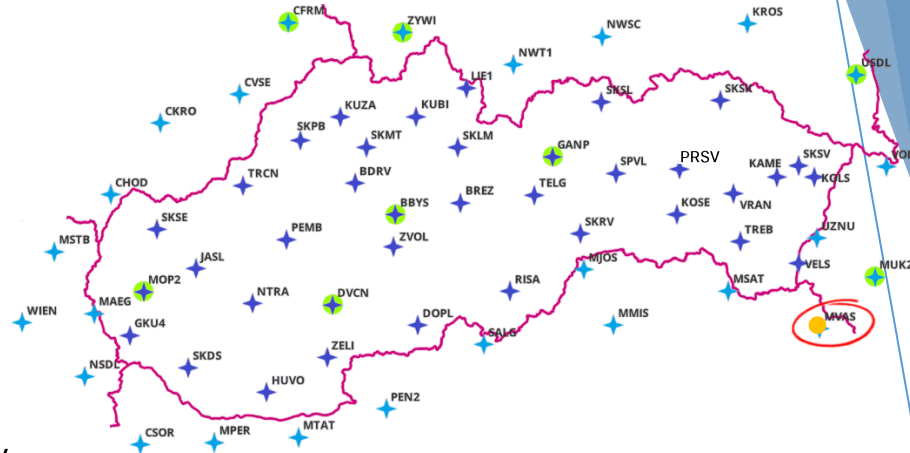
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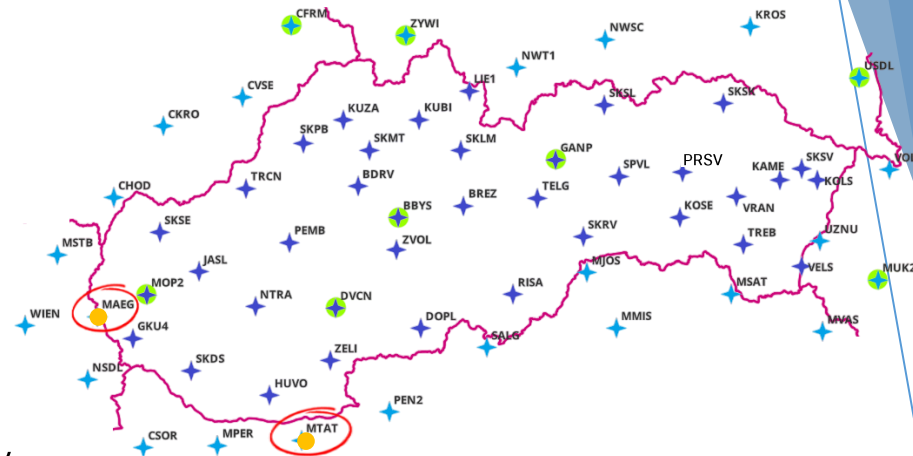
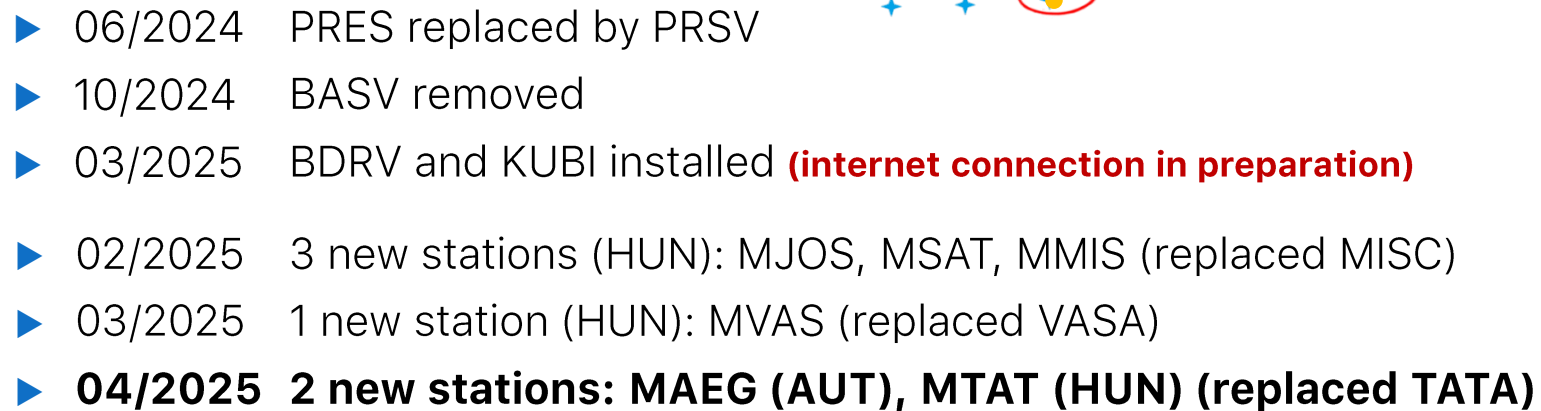


- ▶ 02/2025 3 new stations (HUN): MJOS, MSAT, MMIS (replaced MISC)
- ▶ **03/2025 1 new station (HUN): MVAS (replaced VASA)**





News since last EUREF Symposium:





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News since last EUREF Symposium:



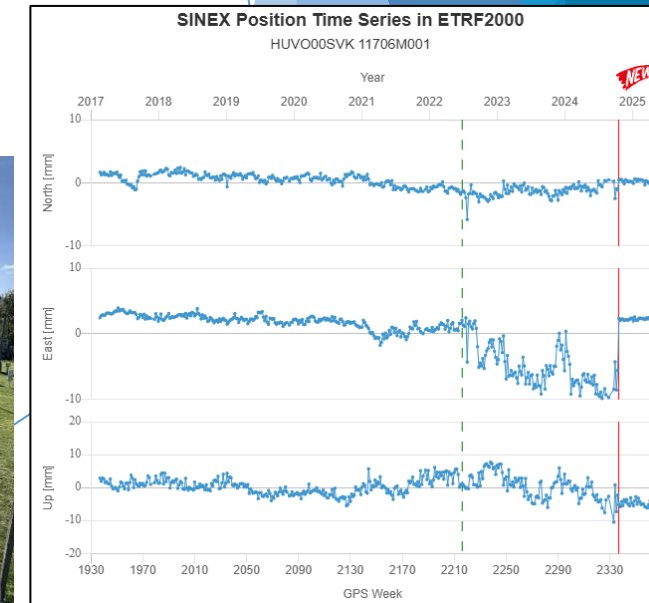
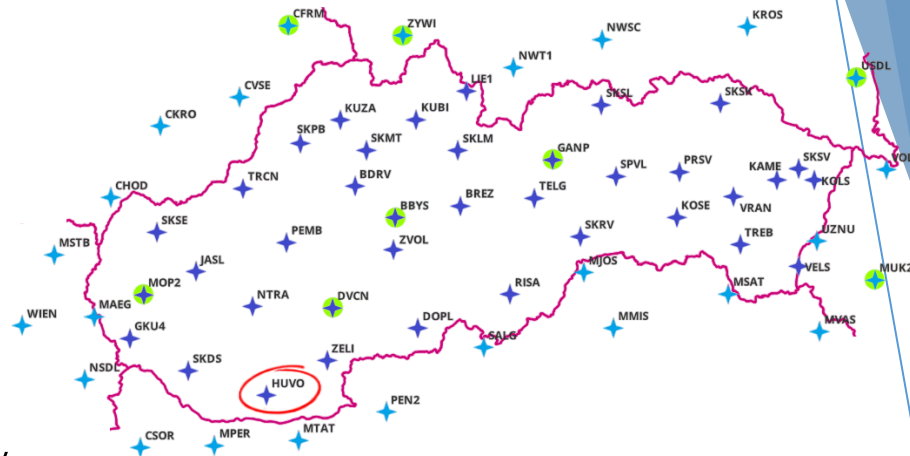
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- ▶ 02/2025 3 new stations (HUN): MJOS, MSAT, MMIS (replaced MISC)
- ▶ 03/2025 1 new station (HUN): MVAS (replaced VASA)
- ▶ 04/2025 2 new stations: MAEG (AUT), MTAT (HUN) (replaced TATA)



- ▶ **10/2024 HUVO: antenna changed**





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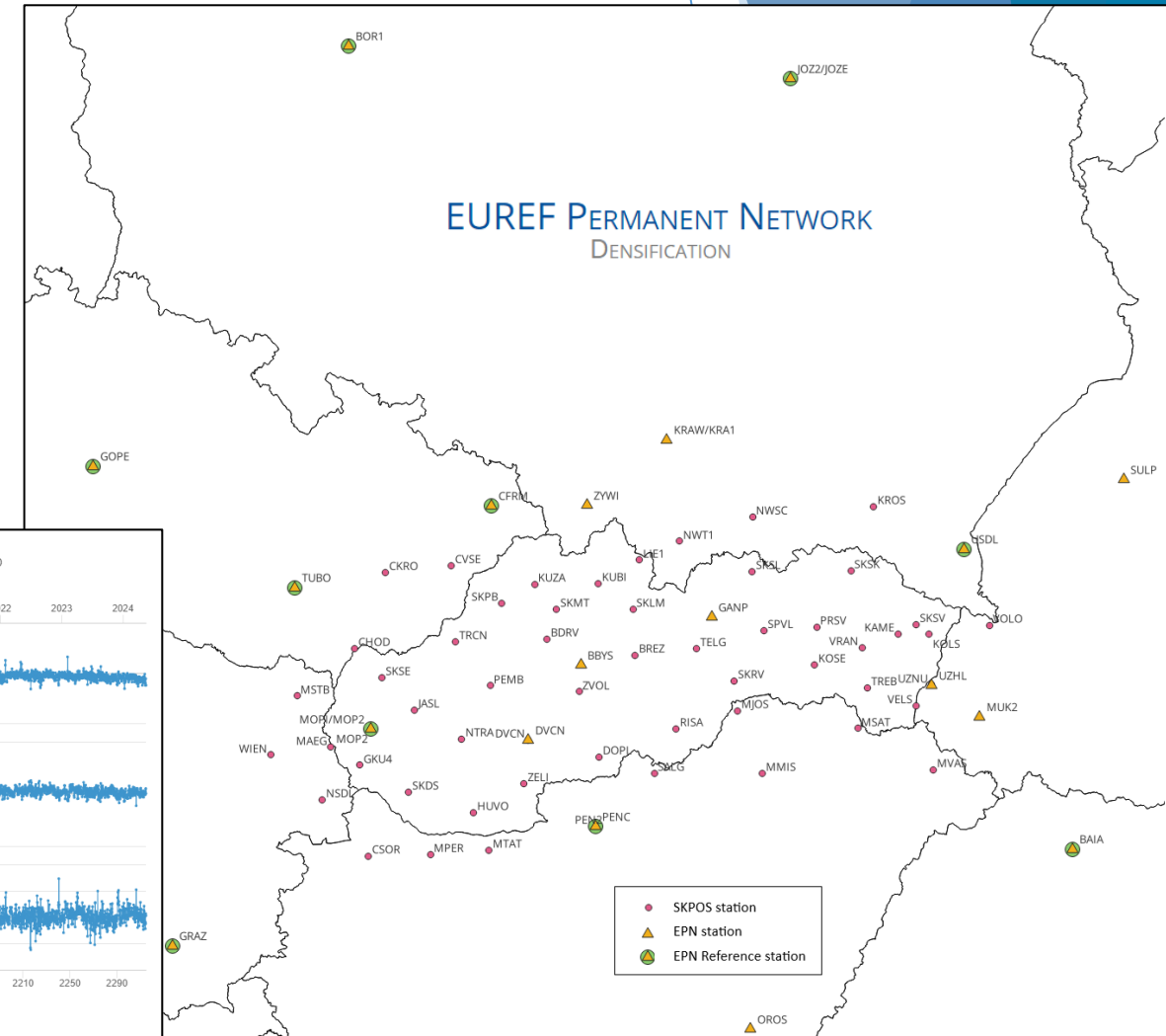
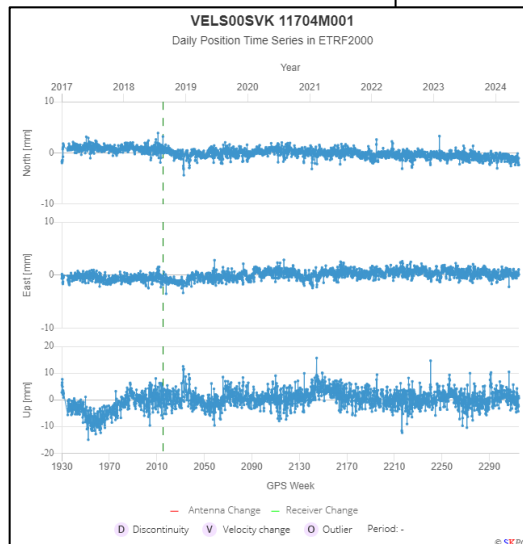
EPN Densification Analysis Center (GKU)

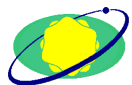
SKPOS network processing:

- ▶ Final daily GRE coordinate solutions
- ▶ 74 stations (SKPOS+foreign+EPN)
- ▶ Bernese GNSS Software 5.4
- ▶ IGS20 reference frame
- ▶ **SKPOS-Repro3 completed**

Contributions to:

- ▶ EPN Densification
- ▶ CEGRN





EPN Analysis Center (SUT)

EPN-subnetwork processing:

- ▶ 94 EPN stations (+2)
- ▶ Bernese GNSS Software 5.4 
- ▶ IGS20 reference frame
- ▶ **EPN-Repro3 completed (IAG 2025, Rimini)**

Provided solutions:

- ▶ Final weekly coordinate solutions (1180 - now)
- ▶ Final daily coordinate solutions (1180 - now)
- ▶ Rapid daily coordinate solutions (2044 - now)
- ▶ Hourly ultra-rapid coordinate solutions (2154 - now)

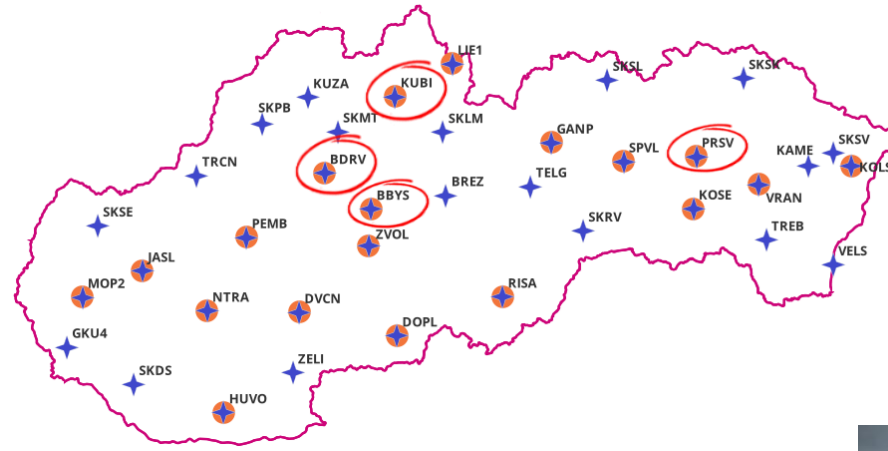




InSAR

National InSAR reflector network:

- ▶ 19 GNSS/InSAR collocated stations
 - ▶ 4 new passive corner reflectors installed
 - ▶ all EPN stations in Slovakia ! (BBYS since 04.06.2025)

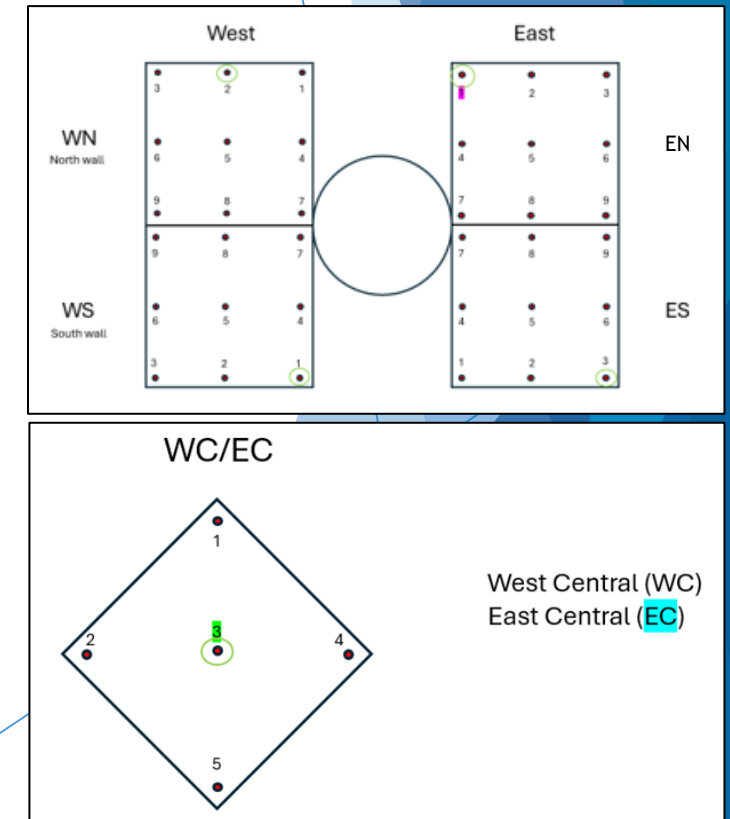
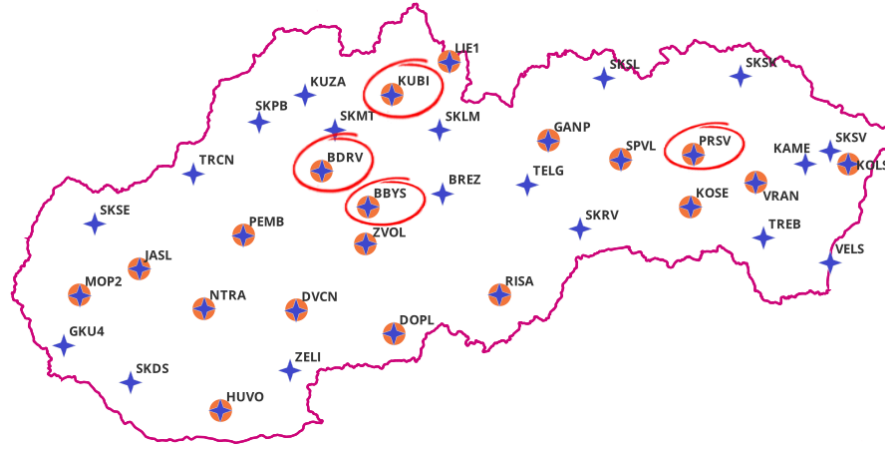




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 - ▶ 16/19 have measured 3D offsets





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Gravimetry

(New) National Gravimetric Network:

- 0th order (19 points)
- 1st order (91 points)
- vertical gravimetric baseline

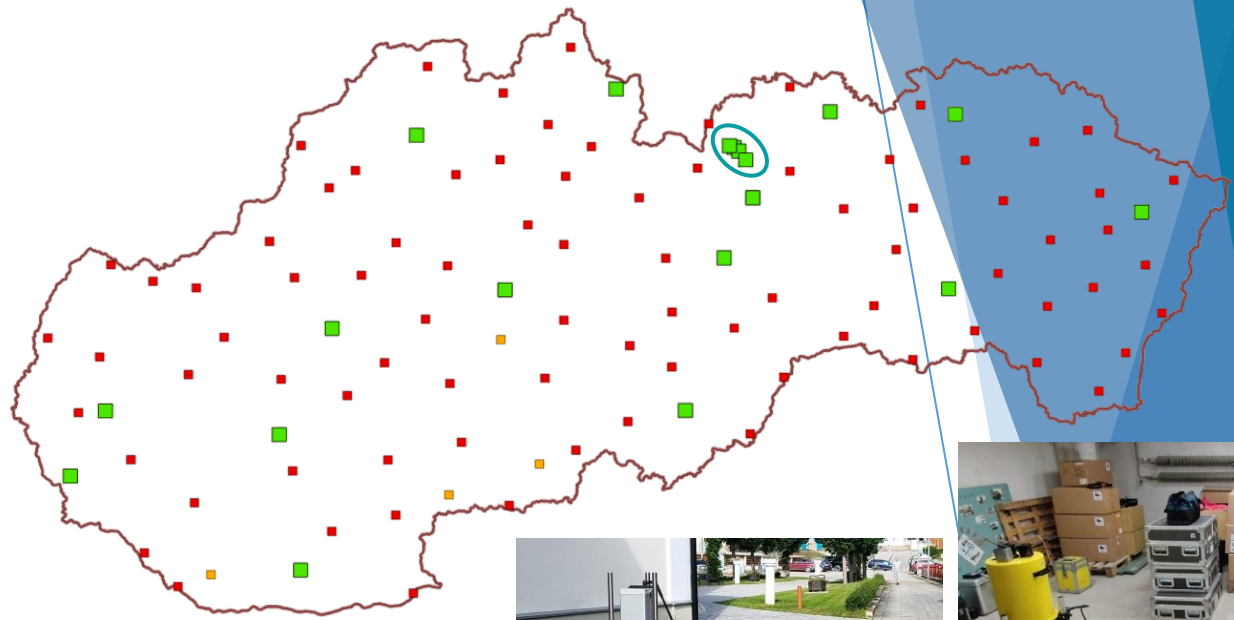
Gravity measurements (2023-2025):

Completed by
the end of 2025

- ▶ 0th order SUT Bratislava (FG5X-247)
- ▶ 1st order IGIK, Warsaw (A10-020)
- ▶ gradients GKU Bratislava (CG-5)

Network adjustment (2025-2026):

- ▶ New national realization S-Gr





EDM calibration baseline

Baseline description:

- ▶ Location: Viničné, Slovakia
- ▶ Length: 606.7 m
- ▶ 7 pillars
- ▶ Heerbrugg (Schwendener) design

EDM calibration:

- ▶ **in operation since 09/2024**
- ▶ registration: <https://kcg.vugk.sk/>
- ▶ **certificate: SVK/ENG**

Accreditation/certification:

- ▶ in the preparation stage
- ▶ ISO 17025





Geospatial data

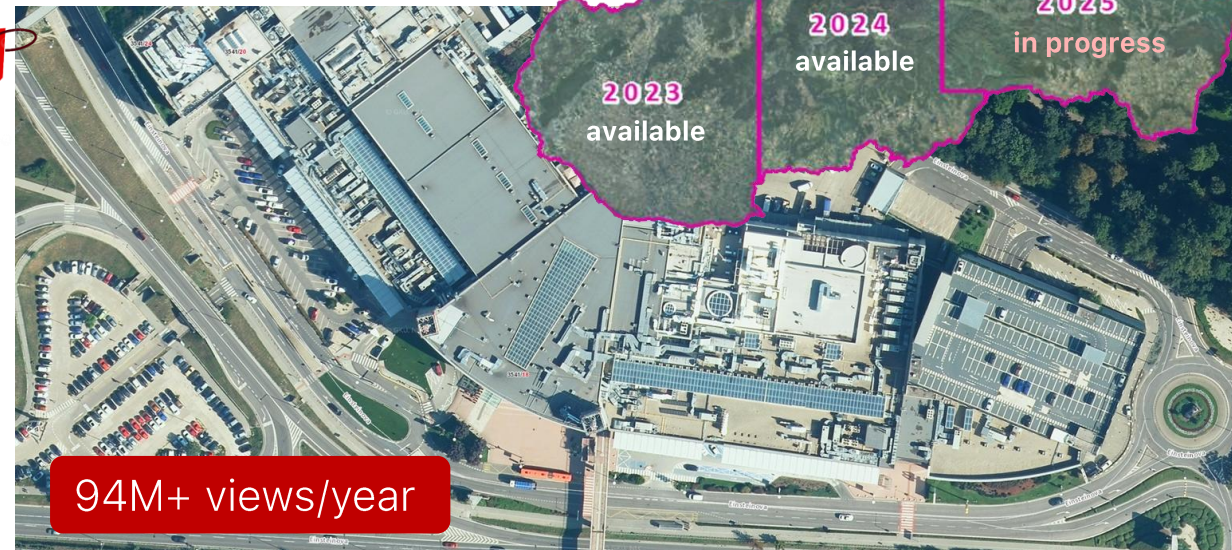
New orthophoto:

- ▶ 3rd cycle of AP (2023-2025)
- ▶ **GSD: 15 cm/pixel**
- ▶ 4 channels (RGBN, 8 bit)
- ▶ $RMSE_{xy} = 18 \text{ cm}$

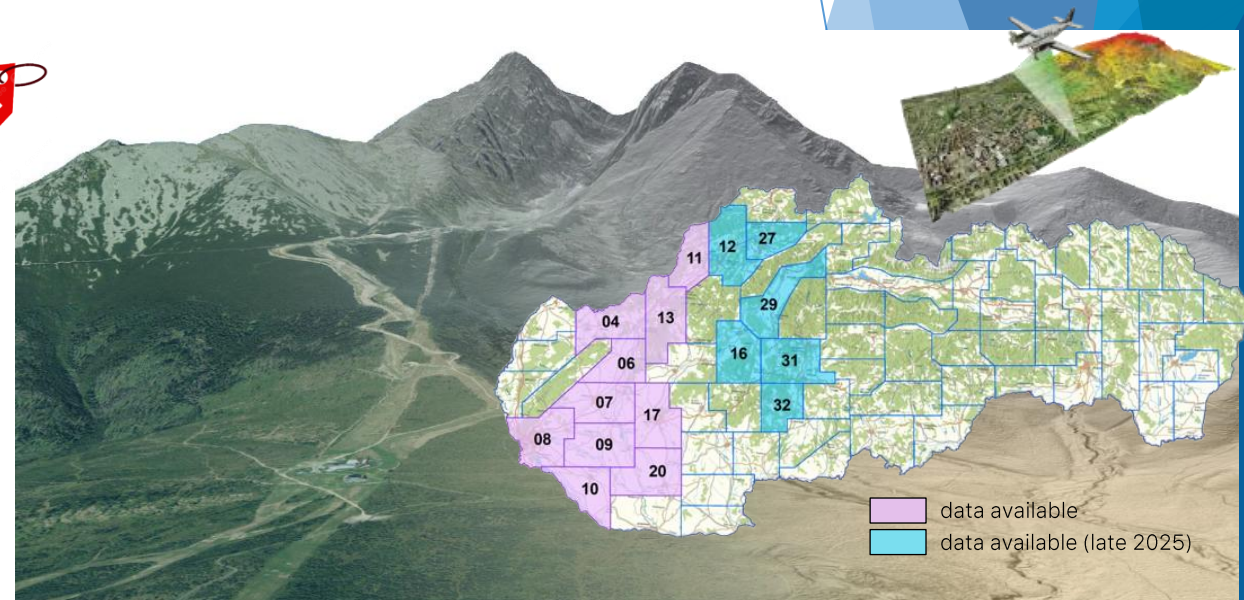
New DTM 6.0/DSM 2.0:

- ▶ 2nd cycle of ALS (2022-2026)
- ▶ 73 locations
- ▶ **0,5 x 0,5 m resolution (40-50 pts/m²)**
- ▶ $RMSE_h = 2 - 8 \text{ cm}$

FREE



FREE





Legislation



Building Act (Zákon NR SR č. 25/2025 Z.z.):

GKU Bratislava: administrator of geodetic control points

- ▶ **§ 22: GKU became the legal entity concerned during the building process**
- ▶ issues a binding opinion on the cancellation of any existing geodetic control point at the construction site
- ▶ better protection of geodetic control points

ZBIERKA ZÁKONOV SLOVENSKEJ REPUBLIKY

Ročník 2025

Vyhlásené: 19. 2. 2025

Vyhlásená verzia v Zbierke zákonov Slovenskej republiky

Obsah dokumentu je právne záväzný.

25

ZÁKON

z 5. februára 2025

Stavebný zákon

a o zmene a doplnení niektorých zákonov (Stavebný zákon)

Národná rada Slovenskej republiky sa uzniesla na tomto zákone:

ČL. I

PRVÁ ČASŤ

ZÁKLADNÉ USTANOVENIA

§ 22

Dotknutá právnická osoba

(1) Dotknutou právnickou osobou je

- a) právnická osoba, ktorá sa vyjadruje ako vlastník, správca alebo prevádzkovateľ stavby dopravnej infraštruktúry, stavby siete technického vybavenia na vymedzenom území, a ako správca bodov geodetických základov; zoznam dotknutých právnických osôb vedie v informačnom systéme úrad,
- b) oprávnená právnická osoba, ktorá sa vyjadruje v oblasti bezpečnosti a ochrany zdravia pri práci, ak ide o stavbu, pri ktorej sa posúdenie bezpečnosti a ochrany zdravia pri práci vyžaduje.

(2) Dotknutá právnická osoba je povinná evidovať údaje o stavbách dopravnej infraštruktúry, stavbách siete technického vybavenia a o bodoch geodetických základov na dotknutom území v informačnom systéme v aktuálnom stave a na žiadosť projektanta poskytnúť mu za úhradu primeraných nákladov potrebné údaje z dokumentácie stavby na účel vypracovania projektovej dokumentácie a navrhnuť technické podmienky pripojenia a ochrany vedení, konštrukcií a vtyčovacích geodetických bodov.

(3) Dotknutá právnická osoba je povinná na základe žiadosti stavebníka alebo ním povereného projektanta poskytnúť údaje a informácie potrebné na vypracovanie stavebného zámeru a vydať záväzné vyjadrenie, v ktorom uvedie konkrétne oprávnené požiadavky na zapracovanie do projektu stavby.

(4) Dotknutá právnická osoba vydáva doložku súladu k projektu stavby, ak si v záväznom vyjadrení k stavebnému zámeru vyhradila posúdenie projektu stavby a uplatnila požiadavky na zapracovanie do projektu stavby.

(5) Lehota na vyjadrenie dotknutej právnickej osoby je 30 dní odo dňa doručenia žiadosti; pri zložitých stavbách môže byť táto lehota najviac 60 dní.



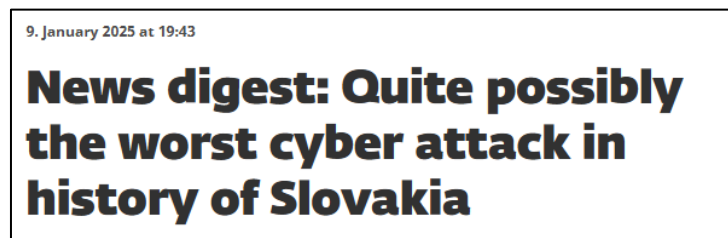
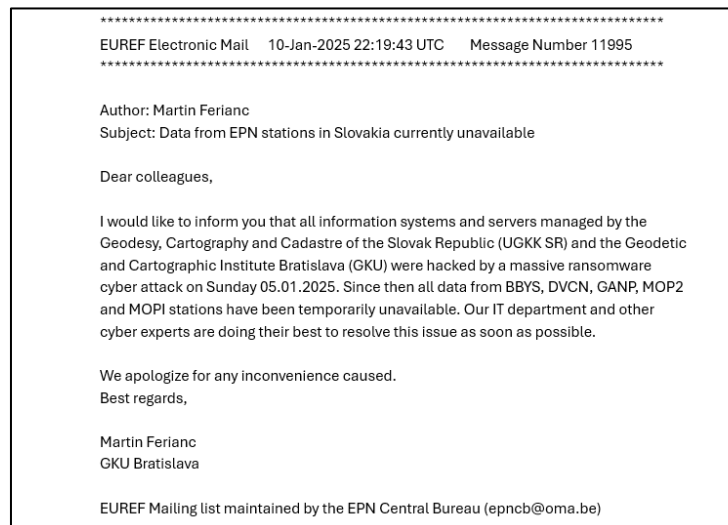
Security

Cyber attack (01/2025):

- ▶ **massive cyber attack in Slovakia**
- ▶ **affected:**
 - ▶ land registry + cadaster offices
 - ▶ UGKK SR/ GKU / VUGK servers
 - ▶ SKPOS
 - ▶ web services
- ▶ **recovery of IT systems still not fully restored**

Recommendation:

- ⚠ **run penetration tests**
- ⚠ **patch SW / systems according to BIA**
- ⚠ **backup servers on separate site**



THANK YOU



Martin Ferianc



www.skpos.gku.sk



skpos@skgeodesy.sk



EUREF 2025 SYMPOSIUM

25th – 26th June 2025 | Covilha